REMARKS

Claims 1, 2, and 5-68 were pending in the current application. Applicants have amended claims 29, 31, 39, 45, 56, 59, 61, 63, 67, and 68. Reexamination and reconsideration of all pending claims, as amended, are respectfully requested.

Applicants acknowledge and appreciate the indication of allowability for claims 1, 2, 5, 57, 58, 64 and 66 of the present application.

35 U.S.C. §112

"Zero or more"/"each"

The Office Action rejected claim 68 as well as claims 29, 31, 39, 61, 63, and 67 based on use of the phrase "each loop back packet covers zero or more test packets" in conjunction with the phrase "a sequence number of *each* covered test packet" (Office Action, p. 3). The Office Action does not take issue with the phrase "zero or more test packets" alone, but only in combination with the other phrase, essentially arguing that "each" cannot be applicable if zero test packets exist. While Applicants do not specifically agree that these two phrases is incorrect or inconsistent or grammatically improper, Applicants have nevertheless amended claims 29, 31, 39, 61, 63, 67, and 68 to recite the phrase "any" test packet rather than "each" test packet, in that while zero test packets may exist, a sequence number for any covered test packet may include no sequence number if no or zero covered test packets are present. In other words, use of the word "any" addresses both zero test packets and a nonzero number of test packets and is therefore acceptable. Applicants submit that by this amendment, claims 29, 31, 39, 61, 63, 67, and 68 are acceptable under 35 U.S.C. §112.

Single Means Claim

The Office Action rejected claims 68 and 66 as purportedly being "a single means claim" contrary to 35 U.S.C. 112, first paragraph, citing *In re Hyatt*, 708 F.2d 712, 714-715, 218 U.S.P.Q 195, 197 (Fed. Cir. 1983).

The so-called "single means claim" rejected in *Hyatt* and MPEP 2164.08(a) is a claim which includes a *single means* recitation, such as claim 35 at issue in *Hyatt*:

> 35. A Fourier transform processor for generating Fourier transformed incremental output signals in response to incremental input signals, said Fourier transform processor comprising:
>
> incremental means for incrementally generating the Fourier transformed incremental output signals in response to the incremental input signals.

This is a single means claim, using the words "means for" only once in the claim. As noted in *Hyatt*, the final paragraph of 35 U.S.C. §112 permits the use of the means-plus-function format for combination claims only, or combinations of elements, not for "means for" claims that are not combinations, or in other words do not form combinations of elements. The final paragraph of 35 U.S.C. §112 "saves combination claims drafted using means-plus-function format from this problem by providing a construction of that format narrow enough to avoid the problem of undue breadth as forbidden by the first paragraph. But no provision saves a claim drafted in means-plus-function format which is not drawn to a combination, i.e., a single means claim." Hyatt, 218 U.S.P.Q at 197.

In contrast, claims 66 and 68 are combination claims and not single means for claims, according to Hyatt and/or 35 U.S.C. §112. For example, claim 66 recites four separate means combined together, namely:

> means for receiving a first message having included therein a minimum rate and a maximum rate for data transmission on a reverse traffic channel;
>
> means for forming a plurality of test packets for transmission on the reverse traffic channel, wherein each test packet includes a sequence number of a test packet last transmitted at each of a plurality of possible rates;

means for selecting rates for the test packets based on a rate selection scheme and limited by the minimum and maximum rates, wherein the selected rates are varied in accordance with a set of rules for the rate selection scheme; and

means for processing the test packets for transmission at the selected rates on the reverse traffic channel.

Claim 68 similarly includes four "means for" recitations each having different and distinct functionality and is thus a combination claim and not a "single means" claim such as claim 35 of *Hyatt*. Applicants submit that the present claims 66 and 68 are presented in proper means form, are not single means claims, and therefore are allowable under 35 U.S.C. §112, first paragraph.

35 U.S.C. §103

Independent claims 1, 5, 6, 28-32, 39, 40, 44, 45, 56, 57, 59, 61, 63, 64, and 66-68 are pending in the application. As noted, an indication of allowability has been provided for independent claims 1, 5, 57, 64 and 66.

The Office Action rejected claims 6-8, 10, 28-31, 39, 61, 63, 67, and 68, including independent claims 6, 28-31, 39, 61, 63, 67, and 68, under 35 U.S.C. §103 based on Sakakura et al., U.S. Patent 5,357,557 ("Sakakura") in view of Engbersen, U.S. Patent 6,031,845[1] ("Engbersen"). The Office Action rejected dependent claims 62 and 65 under 35 U.S.C. §103 based on Sakakura in view of Engbersen and in further view of Kobayashi, U.S. Patent 6,333,932 ("Kobayashi"). The Office Action rejected dependent claims 11-13, 15-20, 22, 23, and 25-27 under 35 U.S.C. §103 based on Sakakura in view of Engbersen as applied to claim 8 and further in view of Kobayashi. The Office Action rejected claims 32-33 and 35-38, including independent claim 32, under 35 U.S.C. §103 based on Numminen

[1] The Office Action cites this '845 patent number as "Engbersen," but this '845 patent number is for the patent issued to Walding. Applicants have reviewed the rejection based on Engbersen at p. 4 of the Office Action and believe this to be based on Engbersen, U.S. Patent 5,271,000, cited in the PTO-892 attached to the Office Action. Applicants believe this is a clerical error and will reference and distinguish based on this Engbersen '000 document in the present Response.

et al., U.S. Patent 6,687,499 ("Numminen") in view of Walding, U.S. Patent 6,031,845 ("Walding") in further view of Dipperstein, U.S. Patent 6,185,191 ("Dipperstein") and in still further view of Gillespie, U.S. Patent 6,014,377 ("Gillespie"). The Office Action rejected dependent claim 34 under 35 U.S.C. §103 based on Numminen in view of Walding in further view of Dipperstein and in still further view of Gillespie and in yet further view of Gopalakrishnan et al., U.S. Patent 7,110,466 ("Gopalakrishnan"). The Office Action rejected claims 59 and 60, including independent claim 59, under 35 U.S.C. §103 based on Numminen in view of Tiedemann Jr. et al., U.S. Patent 5,802,105 ("Tiedemann"). The Office Action rejected dependent claim 9 under 35 U.S.C. §103 based on Sakakura in view of Engbersen and in further view of Funk, U.S. Patent 6,766,164 ("Funk"). The Office Action rejected dependent claim 24 under 35 U.S.C. §103 based on Sakakura in view of Engbersen and in further view of Buchholz, U.S. Patent 5,555,266 ("Buchholz"). The Office Action rejected claims 61-63, and 65, including independent claims 61 and 63, under 35 U.S.C. §103 based on Numminen in view of Kobayashi and in further view of Sjoblom, U.S. Patent Publication 2002/0009053 ("Sjoblom"). The Office Action rejected independent claims 45 and 56 under 35 U.S.C. §103 based on Numminen in view of Tiedemann. The Office Action rejected dependent claims 49-53 under 35 U.S.C. §103 based on Numminen in view of Tiedemann and further in view of Kobayashi. The Office Action rejected dependent claims 46-48 under 35 U.S.C. §103 based on Numminen in view of Tiedemann and further in view of Ikeda, U.S. Patent 5,636,212 ("Ikeda"). The Office Action rejected claims 40-44, including independent claims 40 and 44, under 35 U.S.C. §103 based on Numminen in view of Oommen, U.S. Patent 6,799,203 ("Oommen") and in further view of Tiedemann. The Office Action rejected dependent claims 14 and 21 under 35 U.S.C. §103 based on Sakakura in view of Engbertsen and further in view of Kobayashi.

The Office Action objected to claims 54 and 55 but indicated these claims would be allowable if rewritten in independent form.

Applicants initially note that certain pending claims have been rejected on the basis of five separate references. Applicants submit that rejection of the claims presented on five separate references demonstrates hindsight reconstruction of the invention, which is

improper. "A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning." *KSR International Co. v. Teleflex Inc.*, No. 04-1350, 550 U.S. ___ (2007). Applicants submit that the present Office Action relies extensively on ex post facto reasoning, which is improper.

Independent Claims 6, 28-31, 39, 61, 63, 67, and 68 – Sakakura in view of Engbersen

Independent Claim 6

Sakakura illustrates an inter-mobile terminal testing method in a cellular automobile telephone system. Most notably, Applicants note that the test data provided in the Sakakura is "predetermined pattern data" with the example given being "100111001". Sakakura, col. 3, ll. 1-2. The Sakakura design is essentially a "daisy chain" of test data transmissions from one terminal to the next, and the next, and so forth. The test data/test pattern is evaluated and the validity of the Sakakura test pattern received is assessed, i.e. determined "valid" or "invalid." Sakakura, col. 3, ll. 29.

The contents of the Sakakura test data are shown in FIG. 4, and include "self-test sequence information, accumulated test result information, and test data '100111001'."- Sakakura, col. 3, ll. 20-24.

Applicants focus on the language of claim 6 and note that missing from FIG. 4 and this description of the message and thus from the Sakakura FIG. 4 message is:

1. "test settings selected from among a plurality of possible test settings..."

Sakakura fails to show test settings selected from among a plurality of possible test settings. The Sakakura design shows a single set of test data and no selecting of test settings from among a plurality of possible test settings. The fact that a different, undisclosed Sakakura test data set could conceivably be provided does not show the ability to select test settings from among a plurality of possible test settings as claimed. Sakakura shows one set of test data, namely "predetermined pattern data...'100111001'" See, Sakakura, FIG. 4.

2. "test settings comprise...indications of loop back packet transmission procedures to be performed during testing..."

The Sakakura test "information" provided in FIG. 4 does not include indications of loop back packet transmission procedures to be performed during testing. The sole information in Sakakura is self test information (internal self testing, as opposed to loop back packet transmission procedures as claimed), accumulated test result information, and test data ("100111001"), none of which satisfy the claim limitation. The Sakakura design fails to show test settings comprising loop back packet transmission procedures to be performed during testing.

3. "configure the one or more channels based on the test settings in the first message"

Sakakura fails to configure one or more channels based on test settings in the first message as claimed. The Sakakura design, including the information provided in FIG. 4, fails to disclose configuring one or more channels based on test settings. Again, self test sequence information, accumulated test result information, and test data do not show this claimed limitation, and nothing in the Sakakura design outside this information indicates configuring a channel or channels based on test settings in a message as claimed.

Other differences exist between the claim language and Sakakura. For example, "transmit signaling data via the one or more auxiliary channels if indicated by the selected test settings to test the one or more auxiliary channels" is not shown in Sakakura – nothing in "100111001" indicates testing of one or more auxiliary channels. This predetermined pattern data" has no meaning in the Sakakura context, and thus for this further reason limitations of the present claim are not shown by the Sakakura design. Further, Applicants submit that operation of transmitting loop back packets claimed in claim 6 are not shown by Sakakura, as loop back is understood by one skilled in the art.

In short, Sakakura presents a completely different design and claim 6 is not shown by Sakakura, or Sakakura in view of Engbersen.

Engbersen is relied on to show "loop back packets include the parameter values descriptive of the test packets." Office Action, p. 5. Applicants believe this is some type of shorthand attempting to characterize the multiple independent claims rejected based on Sakakura and Engbersen, and the recited limitation may have similarities to certain pending claims. However, claim 6 does not recite "loop back packets include the parameter values descriptive of the test packets" – the "indications of loop back packet transmission procedures to be performed during testing" is different, and is not shown by the Engbersen abstract and/or col. 19, ll. 17-20. Engbersen shows a "transputer" and the cited passage states that the transputer "either performs statistical computations (e.g. counting of the faulty events) or initiates control commands for the hardware..." Engbertsen, col. 19, ll. 17-20. This is completely different and totally unrelated to the aspects claimed in claim 6.

Thus Applicants submit that claim 6 is not obvious based on Sakakura in view of Engbersen, as claim 6 includes various limitations neither disclosed nor suggested by the combination of Sakakura and Engbersen.

Further, Applicants dispute the combination of Sakakura and Engbersen as an improper hindsight reconstruction of the invention, using Applicants' claims as a guide. A full discussion of the impropriety of combining these references is provided below.

Claims 28-31, 39, 61, 63, 67, and 68

With the foregoing understanding of Sakakura and Engbersen, Applicants point out the limitations in independent claims 28-31, 39, 61, 63, 67, and 68, missing from these references, alone or in combination.

Claim 28:

> identify parameter values descriptive of the test packets in the first data transmission and excluding known test data...

Neither Sakakura nor Engbersen identify parameter values descriptive of the test packets and excluding known test data as claimed. Sakakura includes known test data,

namely the "100111001" predetermined pattern data. Engbersen simply does not operate in this manner.

Claim 29:

forming a plurality of loop back packets for the plurality of received test packets, wherein each loop back packet covers zero or more test packets, excludes known test data, and includes the transmission source and the sequence number of any covered test packet;

Again, Sakakura fails to "exclude known test data" as claimed, and the operation of the loop back packets in the manner claimed materially differs from Sakakura and Engbersen. Neither reference shows loop back packets covering zero or more test packets, excluding known test data, and including the transmission source and sequence number of any covered test packet. To the extent FIGs. 3 and 4 include elements such as "test sequence information," "C1 => C2 Result," "Base Terminal," "Next Terminal," and so forth, these are not specifically loop back packets, and thus cannot be considered loop back packets formed for the plurality of received test packets, and thus are not loop back packets that include the transmission source and sequence number of a covered test packet, as claimed. Further, these formats both include known test data, the aforementioned 100111001.

Claim 30:

receiving a second data transmission via a second channel, wherein the second data transmission includes parameter values descriptive of the test packets in the first data transmission, excludes known test data, and further comprises a record for each test packet correctly received, wherein the parameter values are configured to be used to update a plurality of variables employable in testing the one or more channels;

updating a plurality of variables based on the parameter values included in the second data transmission; and

determining a packet error rate based on information included in the second data transmission

Sakakura does not receive a second data transmission via a second data channel, and exclusion of known test data is discussed above, which Sakakura simply does not do. Further, Sakakura and/or Engbersen do not show parameter values configured to be used to update a plurality of variables employable in testing the one or more channels, updating a plurality of variables based on the parameter values included in the second data transmission, or determining a packet error rate based on information included in the second data transmission. No packet error rate is determined, no parameter values configured to update variables, and no updating based on parameter values.

Claim 31:

receiving a plurality of loop back packets via a reverse traffic channel, wherein each loop back packet covers zero or more test packets, excludes known test data, and includes a transmission source and a sequence number of any covered test packet;

updating a plurality of variables for a plurality of transmission sources based on the transmission source and the sequence number of any test packet covered by the received loop back packets; and

determining a packet error rate based on information included in the loop back packets.

Again, the combination of Sakakura and/or Engbersen fails to show determining packet error rate, does not exclude known test data in the manner claimed, operate loop back packets as claimed, and does not update a plurality of variables in the manner claimed. Hence claim 31 is not obvious in view of the combination of Sakakura and Engbersen.

Claim 39:

receive a plurality of loop back packets via a reverse traffic channel, wherein each loop back packet covers zero or more test packets, excludes known test data, and includes a transmission source and a sequence number of any covered test packet; and

update a plurality of variables for a plurality of transmission sources based on the transmission source and the sequence number of any test packet covered by the received loop back packets.

The Sakakura and Engbersen references fail to teach loop back packets that exclude known test data and include a transmission source and a sequence number of any covered test packet as claimed. Further, the cited reference do not update a plurality of transmission sources in the manner claimed, including but not limited to based on the sequence number of any test packet covered by the received loop back packets.

Claim 61:

a controller operative to identify a transmission source and a sequence number of each received test packet and to form a plurality of loop back packets for the plurality of received test packets, wherein each loop back packet covers zero or more test packets, excludes known test data, and includes the transmission source and the sequence number of any covered test packet

No controller operative to "form a plurality of loop back packets for the plurality of received test packets" is shown by the combination of Sakakura and Engbersen, and no loop back packet that excludes known test data as claimed. Further, no loop back packet including the transmission source and the sequence number of any covered test packet is provided in the cited references.

Claim 63:

means for forming a plurality of loop back packets for the plurality of received test packets, wherein each loop back packet covers zero or more test packets, excludes known test data, and includes the transmission source and the sequence number of any covered test packet; and

a transmit data processor operative to process the test packets for transmission at the selected rates on the reverse traffic channel

As discussed above, loop back packets as claimed are not shown in the cited references, alone or in combination. Further, no transmit data processor operative to process test packets at the selected rates on the reverse traffic channel are provided in the cited references.

Claim 67:

a receive data processor operative to process a plurality of loop back packets received via a reverse traffic channel, wherein each loop back packet covers zero or more test packets, excludes known test data, and includes a transmission source and a sequence number of any covered test packet; and

a controller operative to update a plurality of variables for a plurality of transmission sources based on the transmission source and the sequence number of any test packet covered by the received loop back packets

No receive data processor operative to process loop back packets as claimed is shown in Sakakura and/or Engbersen, particularly where loop back packets exclude known test data. Further, no controller operative to update a plurality of variables for a plurality of transmission sources in the manner claimed is shown in the cited references.

Claim 68:

means for processing a plurality of loop back packets received via a reverse traffic channel, wherein each loop back packet covers zero or more test packets, excludes known test data, and includes a transmission source and a sequence number of any covered test packet; and

means for updating a plurality of variables for a plurality of transmission sources based on the transmission source and the sequence number of any test packet covered by the received loop back packets

Again, loop back packets conforming to these requirements are not shown in Sakakura and/or Engbersen. Neither reference shows a design with loop back packets that exclude known test data. Further, no means for updating a plurality of variables for a plurality of transmission sources is shown in the cited references.

Applicants also dispute the combination of Sakakura and Engbersen as discussed above and in further detail below.

For the foregoing reasons, independent claims 28-31, 39, 61, 63, 67, and 68 are not obvious based on Sakakura in view of Engbersen.

Claims depending from allowable independent claims 6, 28-31, 39, 61, 63, 67, and 68 are allowable as they include limitations not shown in the cited references, alone or in combination.

Independent Claims 61 and 63 – Numminen in view of Kobayashi and in further view of Sjoblom

Applicants focus on claim 29 and the following limitations of claims 61 and 63:

a controller operative to … form a plurality of loop back packets for the plurality of received test packets, wherein each loop back packet covers zero or more test packets, excludes known test data, and includes the

transmission source and the sequence number of any covered test packet (claim 61, as amended)

means for forming a plurality of loop back packets for the plurality of received test packets, wherein each loop back packet covers zero or more test packets, excludes known test data, and includes the transmission source and the sequence number of any covered test packet (claim 63, as amended)

forming a plurality of loop back packets for the plurality of received test packets, wherein each loop back packet covers zero or more test packets, excludes known test data, and includes the transmission source and the sequence number of each covered test packet;

This limitation is said in the Office Action to be shown by Kobayashi. (*See, e.g.*, Office Action, pp. 24-25). The Kobayashi reference is said to be a "Connectionless Communication System, its Test Method, and Intra-Station Control System." Kobayashi discusses both wired network operation, including certain aspects such as error logging while in operation, as well as the "test method" referenced in the title.

The passage cited in the Office Action, Col. 2, ll. 55-67 of Kobayashi, merely talks about a destination address (DA) and a source address (SA) as the only pertinent information required in testing the wired network. No mention is made of anything beyond the destination address and the source address of a test packet.

Claims 61 and 63 both require that each test packet "includes the transmission source and the *sequence number* of each covered test packet..." (emphasis added). A sequence number is understood to one skilled in the art and defined to be a specific, unique identifying number, and the present claims require that both a transmission source and a sequence number be provided.

A sequence number is commonly understood to one skilled in the art to simply be an identifying number for one element in the sequence. Applicants attach hereto as Exhibit A a definition of "sequence number" as it applies in the computing field:

lib.daemon.am/Books/www.gerhardmueller.de/docs/UnixCommunicationFacilities/ip/node16.html

Kobayashi does provide a DA and an SA in each Kobayashi test packet, but does not show a loop back packet including both the transmission source and the **sequence number** of each covered packet.

The Office Action finds providing the sequence number in test packets in paragraphs [0023] and [0026] of Sjoblom. Paragraph [0023] of Sjoblom simply says that the node checks whether packets sent are duplicates, but does not state that sequence numbers are employed in any manner in test packets. Applicants first note that Sjoblom does not deal with loop back packets in the cited paragraphs. Further, paragraph [0026] does use the phrase "sequence numbers," but does not state that sequence numbers are provided in test packets, or that each loop back packet includes the sequence number of each covered test packet. The entirety of the pertinent Sjoblom passage in paragraph [0026] states "test packets are deleted because their *sequence numbers were not in the release message*" (emphasis added). First, this statement confirms the definition of "sequence number" - an identifying number for one element in the sequence - and also confirms that sequence numbers **are not in** the Sjoblom test packet (again, no loop back packet is shown in Sjoblom), but are specifically in the release message – a completely different entity. This passage does not say that the test packet includes a sequence number. Thus Sjoblom does not show "each loop back packet ... includes the transmission source and the sequence number of each covered test packet" as claimed.

Thus these claims are not obvious in view of Numminen, Kobayashi, and Sjoblom. Applicants dispute the combination of these references as discussed in further detail below.

Independent Claim 32 – Numminen in view of Walding in further view of Dipperstein and in still further view of Gillespie

Claim 32 includes a "receiving limitation" and a "configuring limitation," not shown by the references, alone or in combination. The receiving limitation of claim 32 speaks of possible test settings for one or more auxiliary channels, while the configuring limitation speaks of configuring each auxiliary channel based on test settings applicable to the auxiliary channel. The test settings selected in claim 32 "comprise indications for configuring each auxiliary channel and indications of procedures to be performed by each auxiliary channel during testing..."

The Office Action cites Dipperstein, col. 3, ll. 11-17 and claims 6, 13, and 14, but Dipperstein simply provides for testing over an ISDN channel, without providing indications for configuring the channel, such as the ISDN channel. The cited passages have nothing to do with configuring a channel but simply discuss parameters of the test being performed. Dipperstein does not disclose or suggest providing indications on configuring a channel, as that term is commonly understood and employed in the current specification.

The Dipperstein passages say nothing about "a first message having included therein test settings selected from a plurality of possible test settings, wherein the test settings selected comprise indications for configuring each auxiliary channel and indications of procedures to be performed by each auxiliary channel during testing ..." as required by claim 32. The cited passages simply say that BERT testing occurs according to a set of options, but does not specify configuration each auxiliary channel and indicating procedures to be performed as required by the express language of the claim. Configuring of a channel is simply missing from the Dipperstein reference discussed in the present specification

The Office Action further cites Numminen, col. 6, ll. 54-56 and col. 6, l. 66 – col. 7, l. 8 in rejecting the receiving limitation with respect to auxiliary channels. These passages state that test equipment sends an immediate assignment 503 which may include various instructions for the mobile station. The argument is made on pp. 11-12 of the Office Action that the immediate assignment indicates the contents of the "test octet" and that a value "can

be reserved to indicate that in response to the immediate assignment 503 the mobile station has to set itself into a special test mode..." wherein the special test mode includes not informing the MM layer about the link. Numminen, col. 7, ll. 1-12. This does not conform to the claim limitations, as amended, which require that the selected test settings "comprise indications for configuring each auxiliary channel and indications of procedures to be performed by each auxiliary channel during testing." The Office Action, at p. 12, cites the CLOSE_Multi-slot_loop_CMD, which simply indicates a comparison and statistical operation start command associated with the data channel, and has nothing to do with configuring each auxiliary channel based on test settings applicable to the auxiliary channel. In short, Numminen simply sends a test signal, compares the test signal to a known test signal, and does not configure an auxiliary channel based on test settings provided as claimed.

The cited passages simply do not go as far as the Office Action alleges– the cited passages merely say that the mobile station to be tested is instructed to maintain a connection on a certain transmission channel. The test settings contents and auxiliary channel configuring based on test settings, required in claim 32, are not shown in the cited Dipperstein and/or Numminen references, alone or in combination.

Regarding the claim 32 configuring limitation, since no test settings as claimed are received, the Numminen mobile device does not configure one or more channels based on selected test settings as test settings are defined in claim 32. The cited passages only say that a start command is issued, the mobile station closes the test loop, and the mobile station acknowledges the message. These passages thus discuss sending a start command, activating the test loop, acknowledging a message, and stopping a timer. These say nothing about configuring a channel or channels based on selected test settings as claimed. Test settings such as those claimed are not employed in the cited passages.

The remaining limitations of claim 32 include the phrase "test settings," and as discussed above, no test settings as claimed are provided in Numminen. For example, Numminen alone, or in combination with Walding, do not disclose "transmitting each configured auxiliary channel in accordance with the applicable test settings..."

The Office Action attempts to fill in these holes by citing a fourth reference, Gillespie. Gillespie purportedly teaches an auxiliary control channel. (Office Aciton, p. 16) Applicants do not see this in the cited passage, namely Gillespie, Col. 5, ll. 55-58, which describes a cell site controller managing radio channels at the site, supervising calls, turning the radio transmitter on and off, etc. This has nothing to do with the present claims, which again, require "...test settings selected from among a plurality of possible test settings for one or more auxiliary channels used to carry signaling for data transmission on the forward link for the one or more auxiliary channels, wherein the test settings selected comprise indications for configuring each auxiliary channel and indications of procedures to be performed by each auxiliary channel during testing; configuring each auxiliary channel based on test settings applicable to the auxiliary channel; and transmitting each configured auxiliary channel in accordance with the applicable test settings to test the configured auxiliary channel." To the extent Gillespie shows anything, it shows managing radio channels at a site, supervising calls, etc., a different application altogether. Gillespie fails to show test settings comprising indications for configuring auxiliary channels, configuring each auxiliary channel based on test settings applicable to the auxiliary channel, and so forth. It is as if Gillespie were selected based on some phrase or wording contained therein. However, no phrase in the cited passage or anywhere in Gillespie shows "testing Auxiliary control channel" as claimed in the Office Action at page 16.

The Office Action takes issue with Applicants contentions with respect to claim 32 at page 39 et seq. of the Office Action, in the "Response to Arguments" section. In essence, the Office Action contends Dipperstein shows what is claimed, arguing that "test settings indications" are the list of options displayed, a "message having test setting indications" is shown by the Dipperstein command-response message, the Dipperstein bearer channels perform the reverse traffic channel functions claimed, and Numminen shows the "test settings" limitations. The Response to Arguments section then goes on to repeat much of the language cited earlier in the Office Action.

This valiant attempt to match these disparate references to the claim language fails. As noted, Dipperstein operates without providing indications or functionality for

configuring the channel, such as the ISDN channel discussed. The cited passages have nothing to do with configuring a channel but simply discuss the test being performed. Dipperstein does not disclose or suggest providing indications on configuring a channel as expressly required by the claim language ("test settings selected comprise indications *for configuring each auxiliary channel* and indications of procedures to be performed by each auxiliary channel during testing; *configuring each auxiliary channel* based on test settings applicable to the auxiliary channel"; emphasis added) The entire argument at pages 39-41 ignores this requirement and does not disprove the absence of these limitations from the Dipperstein design.

Again, the cited passages of Dipperstein simply say that BERT testing occurs according to a set of options, but does not specify configuration each auxiliary channel nor indicate procedures to be performed as required by the express language of the claim. Configuring of an auxiliary channel as claimed is simply missing from the Dipperstein reference.

Thus claim 32 is not obvious based on Numminen in view of Walding and in further view of Dipperstein and in still further view of Gillespie. Claims depending from allowable claim 32 are allowable as they include limitations not shown by the combination of Numminen, Walding, Dipperstein, and Gillespie.

Independent Claims 40 and 44 – Numminen in view of Oommen in further view of Tiedemann

Claims 40 and 44 recite "collect[ing] a first statistic for a first parameter while in an idle state and not exchanging data via the link, wherein collecting the first statistic occurs while performing a testing function; collect[ing] a second statistic for a second parameter different from the first parameter while in a connected state and exchanging data via the link." Collecting the first statistic thus occurs, in both claims 40 and 44, while in the idle state.

The Office Action cites Numminen, col. 10, ll. 1-8 which generally describes the idle mode. Office Action, p. 34. In the Numminen idle mode, "it [mobile station or terminal] receives from base stations certain downlink messages and sends occasionally location update messages uplink." *Id.* This describes idle mode operation **wherein testing is not being performed, nor collecting statistics**. Collecting of statistics does not occur in idle mode within Numminen, and is not shown by the cited passage.

The Office Action seeks to address this deficiency by surmising "it [the mobile station or terminal] is for most of the time in the so-called idle mode (i.e. idle state) in which it receives from base stations certain downlink messages...." Office Action, p. 35. The claim language, however, is "collect[ing] a first statistic for a first parameter while in an idle state and not exchanging data via the link, wherein collecting the first statistic occurs while performing a testing function..." The Numminen design is simply in idle mode and receives downlink messages and occasionally sends location update messages – it does not, as expressly claimed, collect a first statistic for a first parameter and not exchange data via the link nor collect the first statistic while performing a testing function. The Office Action is seeking to embellish, in some manner, idle state functionality that is clearly contrary to the express language of the present claim.

The Office Action finds the limitation of collecting the first statistic while performing testing in Tiedemann, said to exist at col. 14, ll. 40-57. (Office Action, p. 36). This strained reading of Tiedemann in combination with Numminen in actuality shows nothing similar to "collecting a first statistic for a first parameter while in an idle state and not exchanging data via the link, wherein collecting the first statistic occurs while performing testing..." This limitation requires collecting a first statistic for a first parameter while performing testing in an idle state and not exchanging data via the link. The Numminen reference fails to collect statistics or collect statistics while in an idle state or operate in an idle state while performing testing. The cited Tiedemann paragraph speaks of detecting CRC errors during testing but says nothing about an idle state. In reality, the combination of these references, while only marginally employing wording have some broad, general similarity to the language employed in the claim, does not show "collecting a

first statistic for a first parameter while in an idle state and not exchanging data via the link, wherein collecting the first statistic occurs while performing testing..." These references have nothing to do with each other in this respect and cannot be said to show the claimed limitation, alone or in combination. In other words, the combination of Numminen and Tiedemann does not show "collecting a first statistic for a first parameter while in an idle state and not exchanging data via the link, wherein collecting the first statistic occurs while performing testing".

The Oommen reference is not cited in opposition to this "collecting a first statistic" limitation, and thus the combination of Numminen, Oommen and Tiedemann does not render claims 40 or 44 obvious, as the claims include limitations not shown by the cited combination. Claims depending from allowable independent claim 40, such as claims 41-43, are allowable as they include limitations not shown in the cited references, alone or in combination.

The Office Action argues, at p. 51 et seq., that Numminen teaches collecting data for a first parameter while in idle state and not exchanging data via the link, again citing col. 10, ll. 1-8. In other words, the Response to Argument at p. 51 et seq. of the Office Action simply repeats the arguments presented previously in the Office Action. No matter how many times it is said that col. 10, ll. 1-8 show the claimed limitation, it is simply not there.

Thus claims 40 and 44 are not obvious based on Numminen in view of Oommen and in further view of Tiedemann. Claims depending from allowable claims 40 and 44 are allowable as they include limitations not shown by the combination of Numminen, Oommen and Tiedemann. Claims depending from allowable claims 40 and 44 are also allowable as they include limitations not found in the cited references, alone or in combination.

Independent Claims 45, 56 and 59 – Numminen in view of Tiedemann

The Office Action focuses on the disclosure in Tiedemann of Table II, described at col. 9, ll. 31-34 et seq., wherein a Rate 1 packet includes a bit sequence of 171 bits transmitted at the full rate (e.g. 9.6 kps), a Rate ½ packet transmitted at one-half of the full rate (e.g. 4.8 kps) and so forth. The Office Action argues that "[t]he claim does not state each claim has multiple rates information, rather plurality of packets have multiple rates information." Office Action, pp. 28-29.

Applicants do not necessarily agree with this contention. For example, reading the Tiedemann paragraph at col. 9, ll. 31-51, it cannot be said that data packets are transmitted at more than one rate in any given scheme – for example, the paragraph does not suggest that Rate 1 data packets are transmitted together with Rate ½ data packets. Nonetheless, in an effort to remove any doubt, Applicants have amended claims 45, 56, and 59 to state "...at least one test packet individually comprises information corresponding to a range of rates usable for testing the traffic channel" (claim 45, with similar amendments to claims 56 and 59). Tiedemann shows no such implementation. Neither Numminen nor Tiedemann shows at least one test packet individually comprising information corresponding to a range of rates usable for testing a channel. Applicants submit that claims 45, 56, and 59, as amended, are not obvious in view of Numminen and Tiedemann.

Applicants further submit that the combination of Tiedemann with Numminen in the manner suggested is hindsight reconstruction of the invention, and for this further reason these claims are allowable. Claims depending from allowable claims 45, 56, and 59 are allowable as they include limitations not found in the cited references.

Combination of References

The combination of up to five separate disparate references, combined with stretching the references to appear similar to the claim language when in fact they are not, demonstrate ex post facto or hindsight reasoning in rejecting the present claims.

Applicants disagree that one of ordinary skill in the art would have a reason to combine the features disclosed in the references presented, but particularly the most numerous references provided (Numminen, Wilding, Dipperstein, Gillespie, Gopalkrishnan, etc.) Applicants submit that the combination of as many as five separate and distinct references is unreasonable, and in many cases the three references combined is also unreasonable, and such combinations demonstrate ex post facto or hindsight reasoning in an attempt to piece together the claimed invention. Disparate inapposite potions of the cited references are simply pulled out of thin air and combined with other disparate references in an attempt to deprecate the claimed invention, which is improper.

The PTO has the burden of establishing a prima facie case of obviousness under 35 USC §103. The Patent Office must show that some reason to combine the elements with some rational underpinning that would lead an individual of ordinary skill in the art to combine the relevant teachings of the references. *KSR International Co. v. Teleflex Inc.*, No. 04-1350, 550 U.S. ___ (2007); *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988). Therefore, a combination of relevant teachings alone is insufficient grounds to establish obviousness, absent some reason for one of ordinary skill in the art to do so. *Fine* at 1075. In this case, the Examiner has not pointed to any cogent, supportable reason that would lead an artisan of ordinary skill in the art to come up with the claimed invention.

None of the cited references, alone or in combination, teaches the unique features called for in the claims. It is impermissible hindsight reasoning to pick a feature here and there from among the references to construct a hypothetical combination which obviates the claims.

> It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps. [*citation omitted*]

In re Gordon, 18 USPQ.2d 1885, 1888 (Fed. Cir. 1991). As previously noted, distortion occurs using hindsight reasoning and ex post reasoning is disapproved. *KSR International Co. v. Teleflex Inc.*, No. 04-1350, 550 U.S. ___ (2007).

A large number of devices may exist in the prior art where, if the prior art be disregarded as to its content, purpose, mode of operation and general context, the several elements claimed by the Applicant, if taken individually, may be disclosed. However, the important thing to recognize is that the reason for combining these elements in any way to meet Applicant's claims only becomes obvious, if at all, when considered from hindsight in the light of the application disclosure. The Federal Circuit has stressed that the "decisionmaker must step backward in time and into the shoes worn by a person having ordinary skill in the art when the invention was unknown and just before it was made." *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566 (Fed. Cir. 1987). To do otherwise would be to apply hindsight reconstruction, which has been strongly discouraged by the Federal Circuit. *Id.* at 1568.

> To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.

W.L. Gore & Assoc. v. Garlock, Inc., 721 F.2d 1540, 1553 (Fed. Cir. 1983). Therefore, without some reason in the references to combine the cited prior art teachings, with some rational underpinnings for such a reason, the Examiner's conclusory statements in support of the alleged combination fail to establish a prima facie case for obviousness. *See, KSR International Co. v. Teleflex Inc.*, No. 04-1350, 550 U.S. ___ (2007) (obviousness determination requires looking at "whether there was an apparent reason to combine the known elements in the fashion claimed...," *citing In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness," KSR at 14).

Several reasons supporting the combination of references are provided in the present Office Action, but most if not all are merely conclusions used to justify choosing references based on aspects presented in the claims, or broad generalizations of desirable performance for any device or method in this field of technology. For example, the justification for combining Numminen with Tiedemann is said to be ""by updating various variables related to communication link status, a node keeps an up to date information of the current condition of the links; thus enabling it to modify, most efficiently and reliably, link parameters to enable seamless communication." Office Action, p. 21. This is nothing more than a vague, general statement of operation desirable in virtually any communication system. It is always beneficial to improve operation, cost, efficiency, and so forth, but the question is what reasoning would have been used by one to take the teachings of, say, Tiedemann and modify them in a manner consistent with Numminen, or Gopalkrishnan with Numminen, Walding, Dipperstein, and Gillespie in the manner suggested. Here, no such reason has been articulated. Conclusory reasoning such as that presented is improper hindsight reconstruction of the invention, and for this further reason, all pending claims are allowable over the cited references.

Accordingly, it is respectfully submitted that all pending claims fully comply with 35 U.S.C. § 103.

CONCLUSION

In view of the foregoing, it is respectfully submitted that all claims of the present application are in condition for allowance. Reexamination and reconsideration of all of the claims are respectfully requested and allowance of all the claims at an early date is solicited.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Applicants believe that no fees are due in accordance with this Response beyond those included herewith. Should any fees be due, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment to Deposit Account No. 17-0026.

Respectfully submitted,

Date: April 21, 2009

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EXHIBIT A

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C Glossary

Address family:
The address format used to interpret addresses specified in socket operations. Examples are the internet address family/domain (AF_INET) and the UNIX address family/domain (AF_UNIX).

Advanced Research Projects Agency:
A U.S. government research agency that was instrumental in developing and using the original ARPA Services on the ARPANET. Later it founded global Internet.

Alias:
A term used to refer to alternate names for networks, hosts and protocols. This is also an internetwork mailing term that refers an alternate name for a recipient or list of recipients (a mailing list).

ANSI:
American National Standards Institute. A group that defines U.S. standards for information processing industry including ASCII, FDDI, SGML, programming languages, SQL etc.

API:
Application Programming Interface

ARPA:
See *Advanced Research Projects Agency*.

ARPA/Berkeley Services:
The set of services originally developed for use on the ARPANET (i.e., `telnet`(1)) or distributed with the Berkeley Software Distribution of UNIX, version 4.2 (i.e., `rlogin`(1)).

ARPANET:
The Advanced Research Projects Agency Network, founded by ARPA. It served a long time as the basis for networking research and as a central backbone during development of Internet.

ASCII:
American Standard Code for Information Interchange.

Association:
An Interprocess Communication connection (e.g., a socket) is defined by an association. An association contains the (protocol, local address, local port, remote address, remote port)-tuple. Associations must be unique; duplicate associations on the same system may not exist.

Berkeley Software Distribution UNIX:
A version of UNIX software released by the University of California at Berkeley, or one of the commercial versions derived from it. BSD UNIX was the first UNIX which first included TCP/IP protocols.

Binding:
Establishing the address of a socket which allows other sockets to connect to it or to send data to it.

BSD UNIX:
See *Berkeley Software Distribution UNIX*.

Channel:
A communication path created by establishing a connection between sockets.

Client:
A process that is requesting some service from another process.

Client host:
The host on which a client process is running.

client/server:
A model of interaction in distributed systems in which a program on one site sends a request to a program (at probably another site) and waits for a response. The requesting program is called *client*, the program that responds to that request *server*.

Connection:
An abstraction that is provided by protocol software.

Daemon:
A software process that runs continuously and provides services on request. In the UNIX *client/server* model the *server* is normally a daemon.

DARPA:
See *Defense Advanced Research Projects Agency*.

Datagram sockets:
A socket that maintains record boundaries and treats data as individual messages rather than a stream of bytes. Messages may be sent to and received from many other datagram sockets. Datagram sockets do not support the concept of a connection. Messages could be lost or duplicated and may not arrive in the same sequence sent. Datagram sockets of the Internet domain use the User Datagram Protocol.

Defense Advanced Research Projects Agency:
The military arm of the Advanced Research Projects Agency. Former name of *ARPA*.

Domain:
A set of allowable names or values.

File Transfer Protocol:
The TCP/IP high-level file transfer protocol for transferring files from one machine to another. The `ftp` command uses the FTP protocol.

Free Software Foundation:
The Free Software Foundation is dedicated to eliminating restrictions on people's right to use, copy, modify, and redistribute computer programs. They do this by promoting the development and use of free software. Specifically, they are putting together a complete, integrated software system named ``GNU'' that will be upwardly compatible with UNIX. Most parts of this system are already being used and distributed.

FSF:
See *Free Software Foundation*.

FTP:

See *File Transfer Protocol*.

Gateway:
Former: a node that connects two or more networks together and routes packets between those networks.
Now: application program that interconnects two or more services (e.g. e-mail gateway between two different net types).

GNU:
GNU, which stands for *Gnu's Not Unix*, is the name for the complete UNIX-compatible software system. See also *Free Software Foundation*.

GOSIP:
See *Government OSI Profile*.

Government OSI Profile:
Governments in many countries have adopted selected subsets of OSI, known as GOSIP, and have made them a requirement for interconnectivity and procurement activities.

Host:
A node that has primary functions other than switching data for the network (normally end-user computer system).

ICMP:
Internet Control Message Protocol, part of the Internet Protocol. The ICMP is used from gateways to hosts and between hosts to report errors and make routing suggestions.

IEEE:
Institute of Electrical and Electronics Engineers, Inc.

International Standards Organization:
International body that drafts, discusses and specifies standards for network protocols. Best known for its 7-layer reference model that describes the conceptual organisation of protocol. Although always used as reference model, it is seldom used in the commercial market.

internet:
Connection of two ore more networks.

Internet:
The collection of networks that connects a large number of networks. Uses the TCP/IP protocol to form a single virtual network. Grows with a phenomenal rate.

Internet address:
A four-byte quantity that is distinct from a link-level address and is the network address of a computer node. This address identifies both which network is on the Internet and which host is on the network.

Internet Protocol:
The TCP/IP standard protocol that defines the IP datagram as the basic unit of information passed across an internet. See [RFC 791] for exact specification.

Internetwork:
A term used to mean among different physical networks.

Interprocess Communication:

A facility that allows a process to communicate with another process on the same host or on a remote host.

IP:
See *Internet Protocol*.

IPng:
Internet Protocol - the Next Generation, a term applied to all activities related to the specification of the next version of IPv6. The current version is IPv4.

IPC:
See *Interprocess Communication*.

ISO:
See *International Standards Organization*.

Node:
A computer system that is attached to or is part of a computer network.

Open Software Foundation:
Consortium of computer companies that are attempting to define a common operating environment for workstations. OSF has the following goals: supply portable, scaleable, and interoperable open systems software technology. Important standards from OSF: OSF/1, DCE, MOTIF.

OSF:
See *Open Software Foundation*.

OSF DCE:
See *OSF Distributed Computing Environment*.

OSF Distributed Computing Environment:
OSF's Distributed Computing Environment provides services and tools that support the creation, use, and maintenance of distributed applications in a heterogeneous computing environment.

Packet:
A data unit that is transmitted between processes. Sometimes also called frame.

POSIX:
Portable Operating System Interface for uniX, a family of standards developed by the IEEE.

POSIX.1:
IEEE Std. 1003.1-1990 Standard for Information Technology Portable Operating System Interface (POSIX) - Part 1: System Application Programming Interface (API)

Protocol:
A set of conventions for transferring information between computers on a network (e.g., UDP or TCP).

Remote host:
A computer that is accessible through the network or via a gateway.

Remote Procedure Call:
A technology in which a program invokes services across a network by using modified procedure calls, normally generated with a stub generator.

Request For Comment:
RFCs are documents that define the protocols used in the IP Internet. Some are only suggestions, some are even jokes, and others are published standards. Several sites in the Internet store RFCs and make them available for anonymous ftp.

RFC:
See *Request For Comment*.

RPC:
See *Remote Procedure Call*.

sequence number:
A unique number for every packet on a particular connection maintained by a reliable transport layer service. The sequence number allows the transport layer to see if any packets were lost or delivered out of sequence by the underlying network and data layers.

Server:
A process or host that performs operations that local or remote client hosts request.

Service:
A facility that uses Interprocess Communication to perform remote functions for a user (e.g., `rlogin`(1) or `telnet`(1)).

Socket:
Addressable entities that are at either end of an Interprocess Communication connection. A socket is identified by a socket descriptor. A program can write data to and read data from a socket, just as it writes and reads data to and from files.

Socket address:
The internet address, port address and address family of a socket. The port and internet address combination allows the network to locate a socket.

Stream socket:
A socket that, when connected to another stream socket, passes data as a byte stream (with no record boundaries). Data is guaranteed to arrive in the sequence sent.

SVID:
See *System V Interface Description*.

System V Interface Description:
A formal document that exactly specifies which facilities a system has to have if it claims to be System V compatible.

TCP:
See *Transmission Control Protocol*.

TCP/IP:
See *TCP/IP Internet Protocol Suite*.

TCP/IP Internet Protocol Suite:
A collection of all TCP/IP protocols, often abbreviated with just TCP/IP, because they are the two fundamental ones.

TLI:
See *Transport Layer Interface*.

Transmission Control Protocol:
A connection-oriented protocol that guarantees that messages are delivered in the order in which they were sent and that all messages are delivered. If a TCP connection cannot deliver a message it closes the connection and informs the entity that created it. This protocol is layered on top of IP.

Transport Layer Interface:
A (not only) network interface defined for System V UNIX.

UDP:
See *User Datagram Protocol*.

Uniform Resource Locator:
A string that gives all information to access a piece of information: it contains the protocol type (e.g. ftp or http), and an identification of specific information (e.g. domain or path names).

UNIX:
Operating System family. Today there are two major directions, BSD and System V, upon most UNIX flavours are based.UNIX is a trademark of UNIX System Laboratories, Inc.

UNIX Domain Address:
A character string containing the UNIX pathname to a UNIX Domain socket.

UNIX Domain Protocol:
A protocol providing fast communication between processes executing on the same host and using the AF_UNIX socket address family.

URL:
See *Uniform Resource Locator*.

User Datagram Protocol:
A connectionless protocol built on top of IP. It does not provide any guarantees on the ordering or delivery of messages. The important difference between UDP and IP is that UDP includes a protocol port number, allowing the sender to distinguish among multiple application programs on a given remote machine.

Virtual Terminal Protocol:
A protocol that provides terminal access to interactive services on remote hosts (e.g., `telnet(1)`).

World Wide Web:
A very large scale multi-medial information service that allows users to browse information using a WWW-browser like `Netscape` or `Mosaic`.

WWW:
See *World Wide Web*.

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